

WHAT IS CLAIMED IS:

1. A method of processing a call set-up request from a second mobile station in a base station of a mobile communication system, where the base station is servicing a call in progress of a first mobile station, comprising the steps of:

determining a service level of a call requested by the call set-up request, if the base station does not have enough available resources to accommodate the requested call; and

if the service level of the requested call is higher than a service level of the call in progress of the first mobile station:

suspending the call in progress of the first mobile station;

accepting the call set-up request; and

servicing the requested call of the second mobile station.

2. The method of claim 1, further comprising the step of:

resuming the suspended call of the first mobile station if the base station secures enough resources to resume the suspended call of the first mobile station.

3. The method of claim 1, wherein the service level of the requested call is determined by considering both a mobile station priority of the second mobile station and a service priority of the requested call of the second mobile station.

4. The method of claim 1, wherein parameters for establishing a physical channel and service option information are stored in the first mobile station, said service option information being indicative of the characteristics of the application service of the suspended call.

5. A call processing method in a mobile communication system, where the mobile communication system has a first mobile station with a call in progress, a second mobile station, and a base station that serves both the first and second mobile stations, comprising the steps of:

5 receiving a call set-up request from a second mobile station;
determining a service level of a call requested by the call set-up request, if the base station does not have enough available resources to accommodate the requested call; and

if the service level of the requested call is higher than a service level of the call in progress of the first mobile station:

transmitting, by the base station, a waiting message to the first mobile station;

discontinuing, by the first mobile station, data transmission in response to the waiting message;

accepting, by the base station, the requested call set-up;

servicing, by the base station, the requested call of second mobile station;

transmitting, by the base station, a reestablishment message to the first mobile station, if the base station secures enough resources to resume the suspended call; and

resuming, by the first mobile station, data transmission in response to the reestablishment message.

6. The call processing method of claim 5, wherein the determining a service level step comprises:

considering a mobile station priority of the second mobile station and a service priority of the requested call of the second mobile station.

7. The call processing method of claim 5, wherein parameters for establishing a physical channel and service option information are stored in the first mobile station, said service option information being indicative of the characteristics of the application service of the suspended call.

8. The call processing method of claim 5, wherein the first mobile station resumes data transmission a predetermined time period after the first mobile station receives the reestablishment message.

9. The call processing method of claim 8, wherein the reestablishment message includes information about the predetermined time period.

10. A call processing method in a mobile communication system having a first mobile station with a call in progress, a second mobile station, and a base station that serves the first and second mobile stations, comprising the steps of:

receiving a call set-up request from a second mobile station;

determining a service level of a call requested by the call set-up request, if the base station does not have enough available resources to accommodate the requested call; and

if the service level of the requested call is higher than a service level of the call in progress of the first mobile station:

transmitting, by the base station, a waiting message to the first mobile station;

discontinuing, by the first mobile station, data transmission in response to the waiting message;

accepting, by the base station, the requested call set-up;

servicing, by the base station, the requested call of second mobile station; and

resuming, by the first mobile station, data transmission after a predetermined time period.

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11. The call processing method of claim 10, wherein the determining a service level step comprises:

considering a mobile station priority of the second mobile station and a service priority of the requested call of the second mobile station.

12. The call processing method of claim 10, wherein parameters for establishing a physical channel and service option information are stored in the first mobile station, said service option information being indicative of the characteristics of the application service of the suspended call.

13. The call processing method of claim 10, wherein the waiting message includes information about the predetermined time period.

14. A mobile communication system, comprising:
a first mobile station with a call in progress to a base station;
a second mobile station that transmits a call set-up request to the base station;
and

the base station for, if the base station does not have enough available resources to accommodate the requested call, and if a service level of the requested call is higher than a service level of the call in progress of the first mobile station, suspending the call in progress from the first mobile station and for servicing the requested call of the second mobile station.

15. The mobile communication system of claim 14, wherein the base station resumes the suspended call of the first mobile station if the base station secures enough resources to resume the suspended call of the first mobile station.

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16. The mobile communication system of claim 14, wherein the base station resumes the suspended call of the first mobile station a predetermined time period after the call is suspended by the first mobile station.

17. The mobile communication system of claim 14, wherein the base station determines the service level of the requested call by considering a mobile station priority of the second mobile station and a service priority of the requested call of the second mobile station.

18. The mobile communication system of claim 14, wherein parameters for establishing a physical channel and service option information are stored in the first mobile station, said service option information being indicative of the characteristics of the application service of the suspended call.

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19. A mobile communication system, comprising:
at least one first mobile station with a call in progress to a base station;
a second mobile station that transmits a call set-up request to the base station;
and

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the base station for, if a service level of the requested call is higher than a service level of the at least one call in progress of the at least one first mobile station, and if the base station does not have enough available resource to accommodate the requested call, suspending the at least one call in progress with a lower service level, and

for servicing the requested call of the second mobile station.

20. The mobile communication system of claim 19, wherein the base station resumes at least one suspended call of at least one first mobile station with a suspended call, if the base station secures enough resources to resume the at least one suspended call of the at least one first mobile station with a suspended call.

21. The mobile communication system of claim 19, wherein the base station resumes the at least one suspended call of the at least one first mobile station after a predetermined time period.

22. The mobile communication system of claim 19, wherein the base station determines the service level of the requested call by considering a mobile station priority of the second mobile station and a service priority of the requested call of the second mobile station.

23. The mobile communication system of claim 19, wherein parameters for establishing a physical channel and service option information are stored in the at least one first mobile station, said service option information being indicative of the characteristics of the application service of the at least one suspended call.